

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims

1. – 18. (Canceled)

19. (New) A balanced crystal oscillator circuit having a piezoelectric element, a first oscillator sub-circuit incorporating a first transistor and a second oscillator sub-circuit incorporating a second transistor, wherein the transistors each have different types of transistor terminals and wherein the oscillator sub-circuits are configured with a first, second and third interconnection, the circuit further comprising:

each interconnection being made at a pair of like type of transistor terminals of the first and second transistors;

the first interconnection being between a pair of like type of transistor terminals and a connection to a ground reference;

the second interconnection being between a pair of like type of transistor terminals with a first resonator element therein-between; and

the third interconnection being between a pair of like type of transistor terminals with a second resonator element therein-between, wherein at least one the transistors is provided with bias current and said first and second oscillator circuits being arranged to interact by means of said first and second resonator elements to form a balanced oscillator signal.

20. (New) The balanced crystal oscillator circuit according to claim 19, wherein the balanced oscillator signal is provided at a first circuit junction and at a second circuit junction coupled to a first and second terminal, respectively, from one of the pairs of like type of transistor terminals interconnected by either the first or second resonator element.

21. (New) The balanced crystal oscillator circuit according to claim 19 wherein the transistors are of the Bipolar Junction Transistor (BJT) type.

22. (New) The balanced crystal oscillator circuit according to claim 21, wherein the first, second, and third of said interconnections consist of a pair of collector-type terminals, base-type terminals, and emitter-type terminals, respectively; thereby configuring the balanced oscillator circuit with a dual common-collector transistor coupling.

23. (New) The balanced crystal oscillator circuit according to claim 22, wherein the first resonator element is a piezoelectric element and the second resonator element is a capacitor.

24. (New) The balanced crystal oscillator circuit according to claim 21 wherein the first, second, and third of said interconnections consist of a pair of base-type terminals, collector-type terminals, and emitter-type terminals, respectively, thereby configuring the balanced oscillator circuit with a dual common-base transistor coupling.

25. (New) The balanced crystal oscillator circuit according to claim 24 wherein the first resonator element is a piezoelectric element and the second resonator element is a capacitor.

26. (New) The balanced crystal oscillator circuit according to claim 21, wherein the first, second, and third of said interconnections consist of a pair of emitter-type terminals, collector-type terminals, and base-type terminals, respectively, thereby configuring the balanced oscillator circuit with a dual common-emitter transistor coupling.

27. (New) The balanced crystal oscillator circuit according to claim 19, wherein at least one of the transistors is provided with bias current by means of a resistor coupled between the emitter of a transistor and a supply voltage.

28. (New) The balanced crystal oscillator circuit according to claim 19 wherein at least one of the transistors is provided with bias current by means of an active current source.

29. (New) The balanced crystal oscillator circuit according to claim 28, wherein the transistors are operated in class C.

30. (New) The balanced crystal oscillator circuit according to claim 19, wherein the transistors are of the Metal Oxide Semiconductor (MOS) type.

31. (New) The balanced crystal oscillator circuit according to claim 30, wherein the first, second, and third of said interconnections consist of a pair of drain-type terminals, gate-type terminals, and source-type terminals, respectively; thereby configuring the balanced oscillator circuit with a dual common-drain transistor coupling.

32. (New) The balanced crystal oscillator circuit according to claim 31, wherein the first resonator element is a piezoelectric element and the second resonator is a capacitor.

33. (New) The balanced crystal oscillator circuit according to claim 30, wherein the first, second, and third of said interconnections consist of a pair of gate-type terminals, drain-type terminals, and source-type terminals, respectively, thereby configuring the balanced oscillator circuit with a dual common-gate transistor coupling.

34. (New) The balanced crystal oscillator circuit according to claim 33 wherein the first resonator element is a piezoelectric element and the second resonator is a capacitor.

35. (New) The balanced crystal oscillator circuit according to claim 19 wherein the oscillator circuit is configured with an RC-circuit forming a loop-gain pole in the frequency range above a primary oscillating frequency of the oscillating output signal.

36. (New) The balanced crystal oscillator circuit according to claim 19, wherein the non-resonator elements of the circuit are implemented on an integrated circuit, said integrated circuit having terminals for electric interconnection with the resonator elements.

37. (New) The balanced crystal oscillator circuit according to claim 36, wherein one of the resonator elements is a piezoelectric element, said integrated circuit having terminals for electric interconnection with the piezoelectric element.

38. (New) The balanced crystal oscillator circuit according to claim 19, implemented in a mobile telephone.